



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/506,646

12/08/2004

Joachim Kiefer

3799.1001-000

4984

21005

7590

06/13/2008

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

530 VIRGINIA ROAD

P.O. BOX 9133

CONCORD, MA 01742-9133

EXAMINER

HU, HENRY S

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

06/13/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/506,646	<b>Applicant(s)</b> KIEFER ET AL.	
	<b>Examiner</b> HENRY S. HU	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on Pre-Amendment of September 3, 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 16-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 16-35 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12-2-2005</u> .   | 6) <input type="checkbox"/> Other: _____                          |

1. It is noted that Applicants' **Pre-Amendment** and one **IDS** (3 pages) are filed so far. This Application is a **371/PCT/EP03/02398**. With such a pre-amendment, **original Claims 1-15 are all cancelled; while new set Claims 16-35 are added. Claims 16-35 with four independent claims** (Claims 16, 26, 29 and 35) are now pending. An action follows.

### **DETAILED ACTION**

#### ***Election/Restrictions***

2. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions, which are not so linked as to form a single general inventive concept under PCT Rule 13.1, this is based on the preliminary search done by the examiner as well as by examining the references cited in international search report and IDS filed by Applicants. It is noted that all four independent claims are marked with an underline and are combined with its dependent claims.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted as following: It is noted that **four independent claims are marked with an underline**

Art Unit: 1796

- I.       **Claims 16-25**, drawn to **a proton-conducting polymer membrane**, which is obtained by a three-step process as specified, particularly using a mixture of a polymer and a **vinyl monomer containing phosphonic acid**.
- II.       **Claims 26-28**, drawn to **a polymer/monomer mixture of a polymer and a vinyl monomer containing phosphonic acid** (selected from three formulas as specified).
- III.       **Claims 29-34**, drawn to **a membrane-electrode unit**, which contains at least one proton-conducting polymer membrane made from Group I.
- IV.       **Claim 35**, drawn to **a fuel cell**.

3.       Where the group of inventions is claimed in one and the same international application, the requirement for unity of invention referred to in Rule 13.1 shall be fulfilled only when there is a technical relationship among those inventions involving one or more of the same or corresponding special technical features. The expression “**special technical features**” shall mean those technical features that define a contribution which each of the claimed inventions considered as a whole, **makes over the prior art**. The inventions listed as Groups I-IV do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, although they share the special technical feature, this special technical feature does not define a contribution over the prior art for the following reasons:

Art Unit: 1796

4. In view of Examiner's own prior art search as well as the references or articles cited in **one IDS** filed so far by Applicants, **Claims 16-35** is either obvious or anticipated by following: **US 2003/0031909 A1 to Gascoyne et al., US 6,607,856 B2 to Suzuki et al. US 2003/0012988 A1 to Gascoyne et al., and US 2002/0015879 A1 to Gascoyne et al.,** each individually or in combination. In summary, these four groups have no common features in the preparation as well as its application since they are structurally different. The scope of the claims, i.e., the metes and boundaries are distinct. Accordingly, the special technical feature linking the inventions, the use of proton-conducting polymer membrane having phosphonic acid functional group for each group does not provide a contribution over the prior art, and no single general inventive concept exists. Therefore the restriction is appropriate.

5. With respect to the fact that "all groups are **structurally different** each other", Group I was drawn to **a proton-conducting polymer membrane**, Group II was drawn to **a polymer/monomer mixture of a polymer and a vinyl monomer containing phosphonic acid**, while Group III and Group IV was each drawn to **a different subject matter such as a membrane-electrode unit or a fuel cell**. Although the subject matter from each group may comprise the same or at least similar type proton-conducting polymer membrane, its structure, function and application are indeed different. Particularly the mixture of Group II may be used for other purpose than polymerization. They are thereby not interchangeable.

Art Unit: 1796

6. Because these inventions are distinct for the reasons given above shown as different subject matters and the search required for each group is not required for other groups have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

7. It is noted that no phone call was made to **Alexander Akhiezer (registration # 54,617, tel: 978 341-0036)** by the examiner to request an oral election to the above restriction requirement due to the complexity on multiple (**four**) distinct groups along with **four** independent claims. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

8. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

9. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Conclusion***

Art Unit: 1796

10. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Dr. Henry S. Hu whose telephone number is (571) 272-1103**. The examiner can be reached on Monday through Friday from 9:00 AM –5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Vasu Jagannathan, can be reached on (571) 272-1119. The **fax** number for the organization where this application or proceeding is assigned is **(571) 273-8300** for all regular communications. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

//Peter D. Mulcahy//  
Primary Examiner, Art Unit 1796

/Henry S. Hu/  
Examiner, Art Unit 1796

June 6, 2008